

Patented Feb. 23, 1937

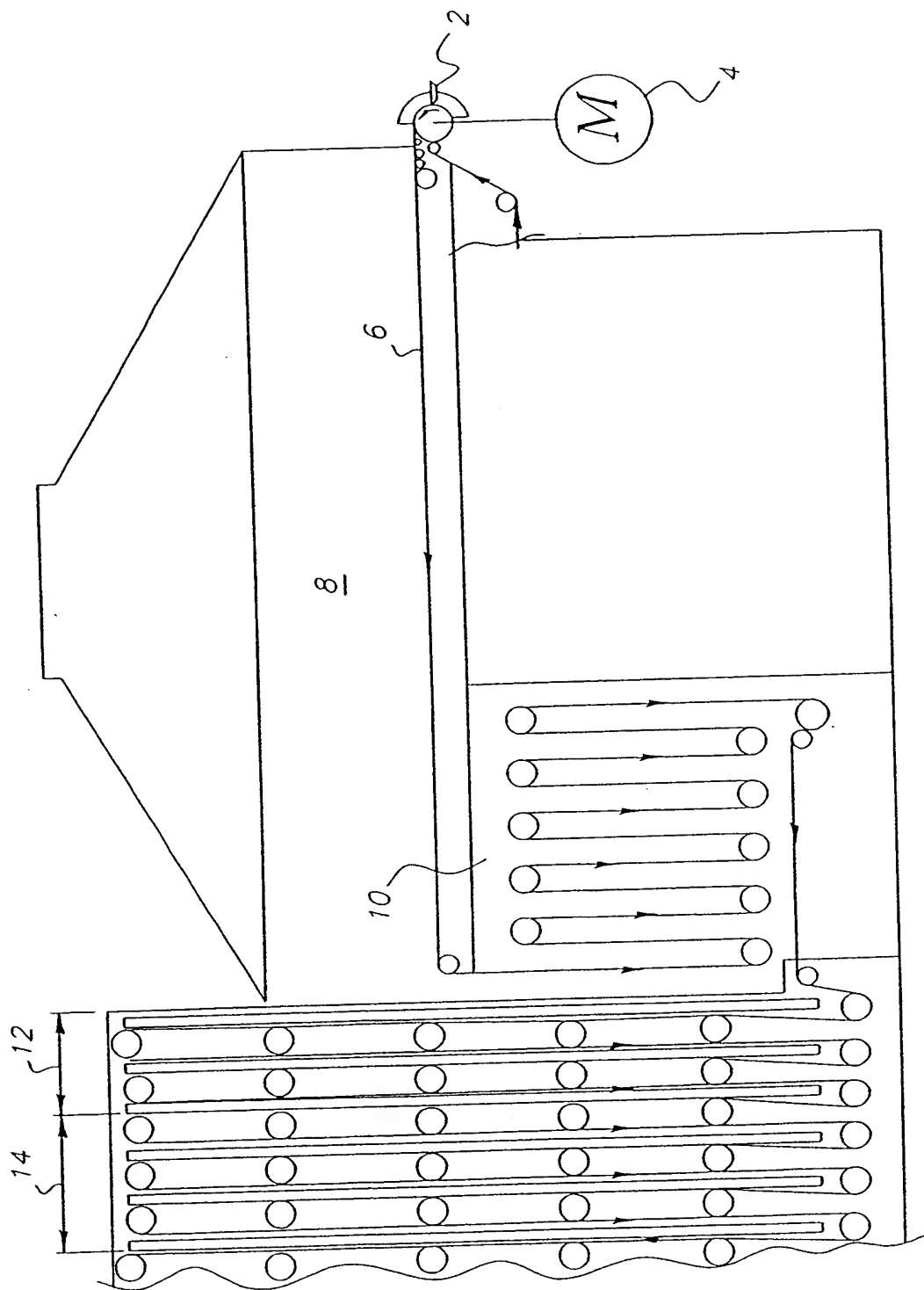


FIG. 1

Description of Schematic Diagram

- A. Color Beads DNA Microarray
- B. Illumination light source
- C. Cover Lid
- D. Light Deflector
- E. Lens
- F. Charge Coupled Device (CCD)
- G. Computer control unit

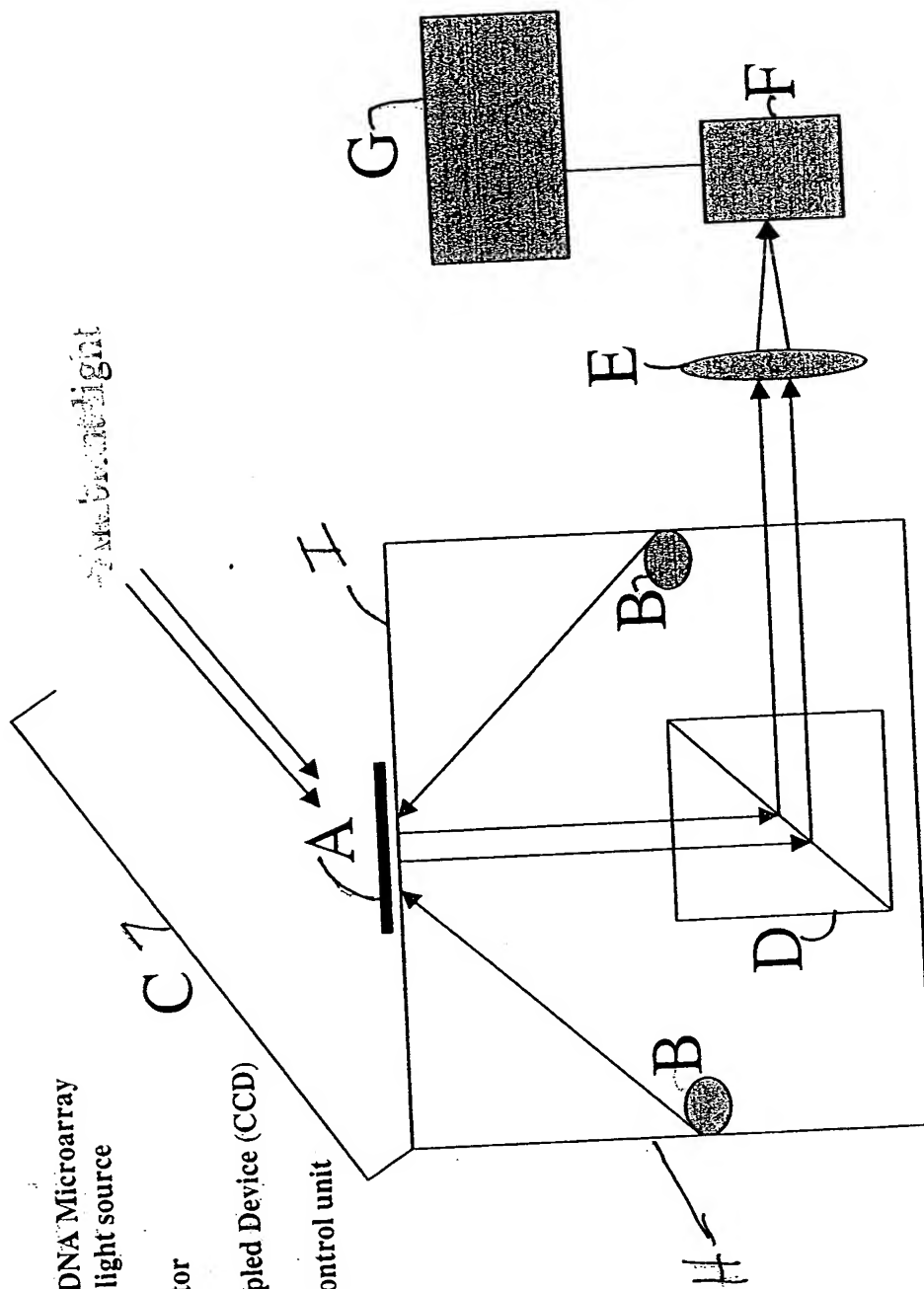


FIG. 2

Workflow Chart of Nucleic Acid Random Microarray Analysis System

Step 1. Hybridization of chemiluminescently/fluorescently labeled nucleic acid sample onto the microsphere coated microarray

100

Step 2. Removal of non-specifically bound chemiluminescently/fluorescently labeled nucleic acid by washing the microarray in buffer solution.

110

Step 3. Whole frame imaging capture of chemiluminescence/fluorescence image resulted from the hybridization interaction of unknown nucleic acid sequences with probe sequences (IMAGE1)

120

Step 4. Whole frame imaging capture of the microarray under bright field illumination to obtain microsphere color signature/barcode image (IMAGE2)

130

Step 5. Identification of unknown nucleic acid in the sample solution by computer analysis of IMAGE1 and IMAGE2 using pattern recognition algorithm.

140

FIG. 3

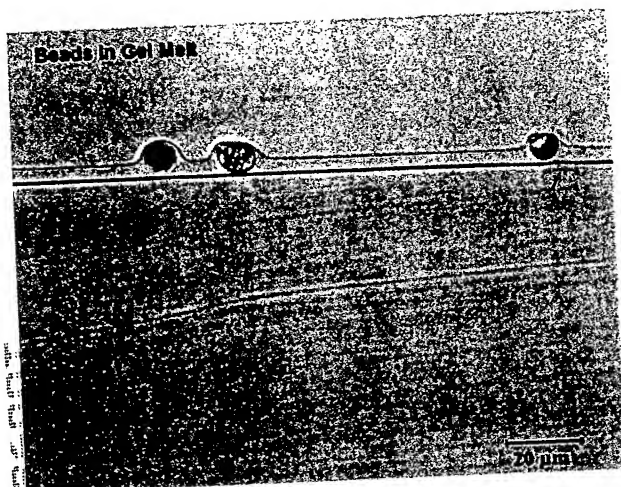
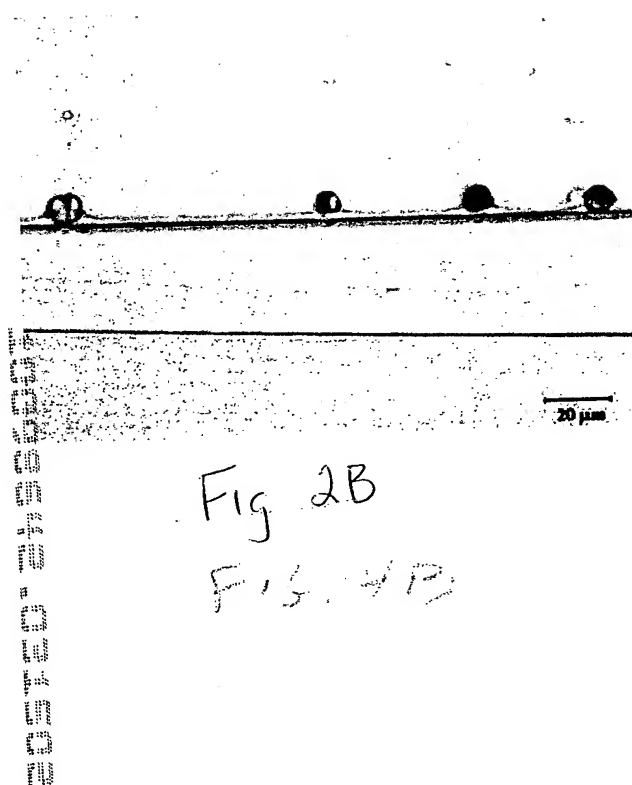


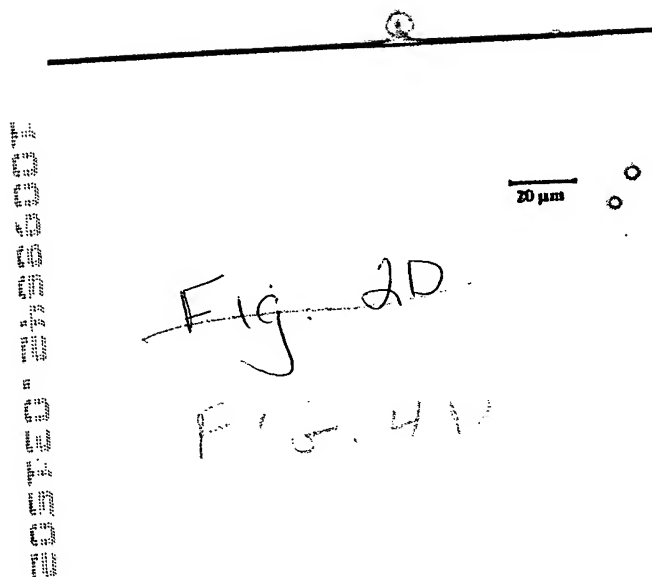
Fig 2A
F.W. W. P.





20 μ m

~~Fig 2C~~
FIG. 4C



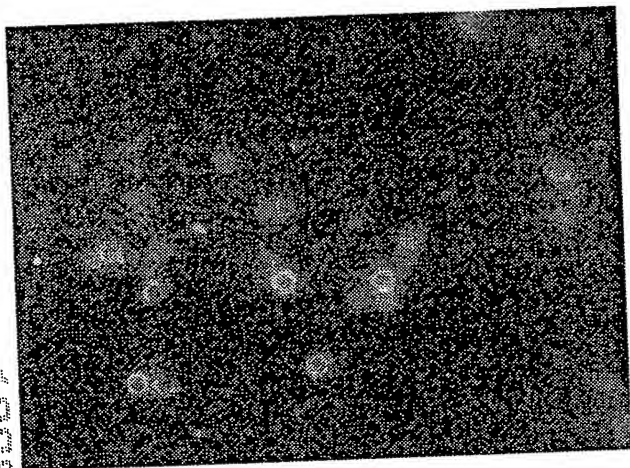
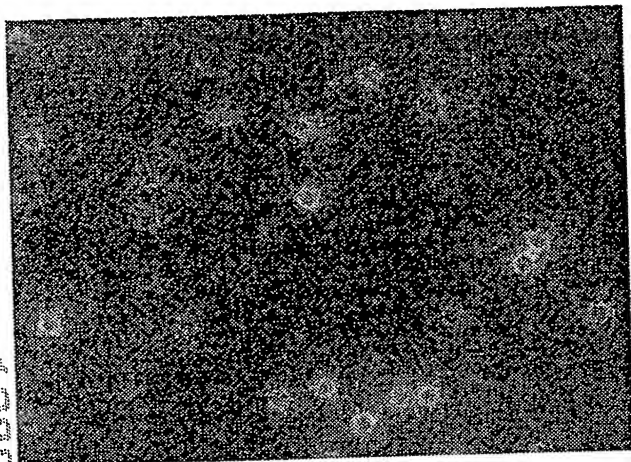


Fig. 3A

FIG. 3A



~~Fig. 3B~~

FIG 5B

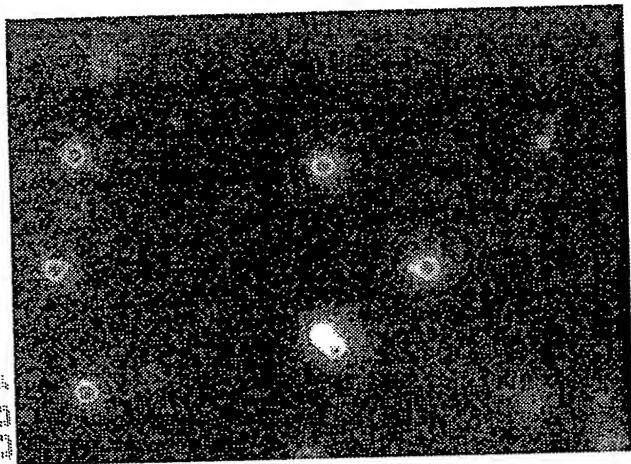


Fig. 3c

FIG. 3c

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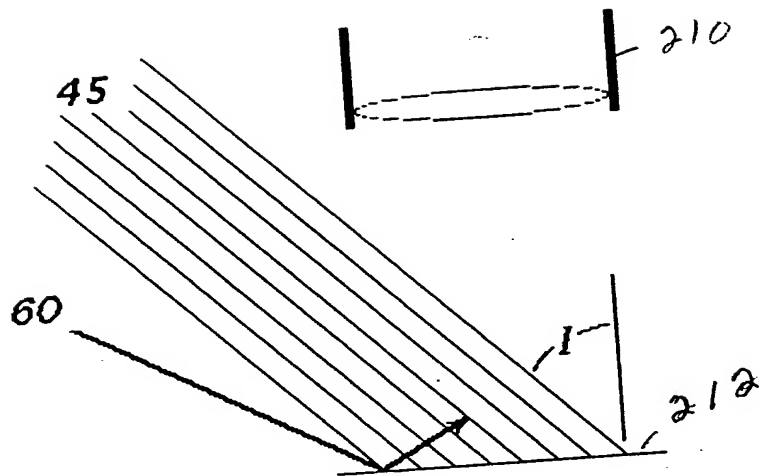


FIG. 6A

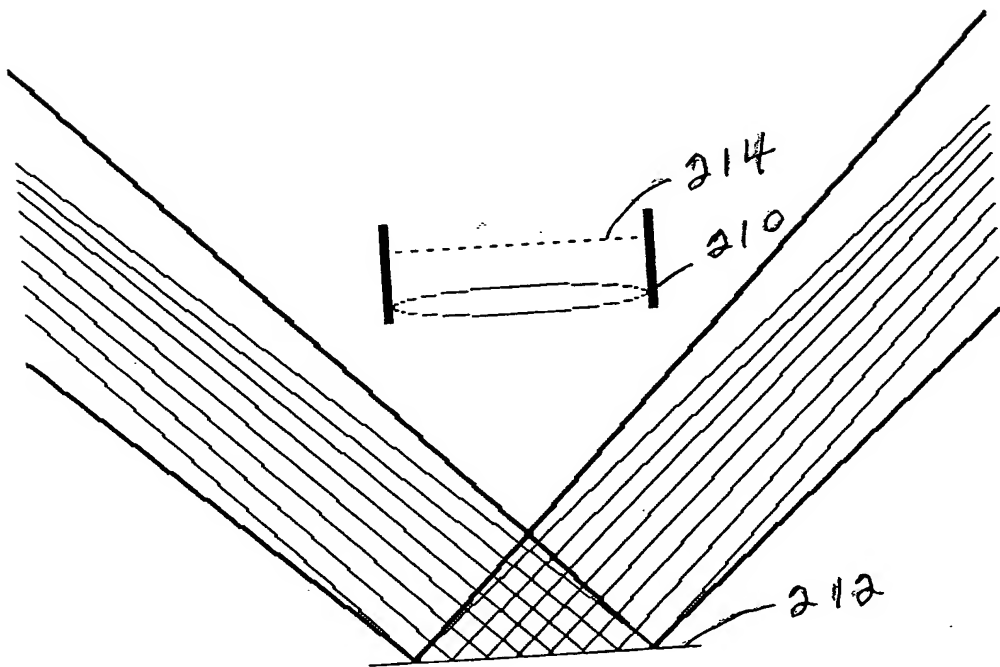


FIG. 6B

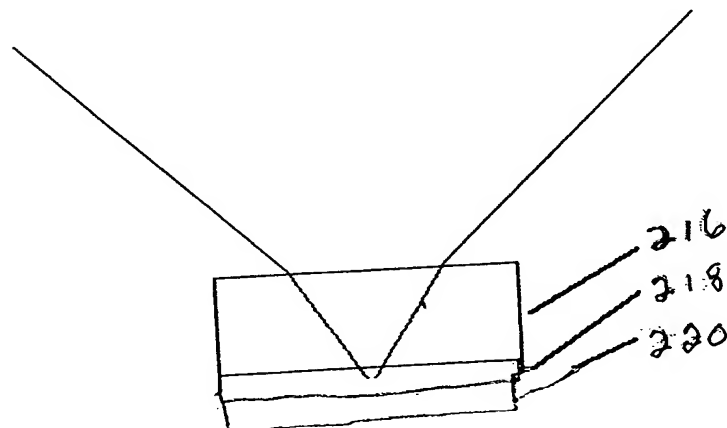


FIG. 6C